GET ACQUAINTED WITH YOUR CAR

Expert Discusses Its Nervous System and What You Should Know.

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ARTICLE VI.

What do you know about the nervous system of your car? Very little, you say, Mr. Novice, "and is there really a nervous system?" To be sure, for with the carburetor as the lungs—breathing apparatus—the ignition, lighting, starting system surely furnishes the "nerves." Yes, and the auto sometimes has a case of "nerves," just like the human race.

There are motor nerves, to supply the starting motor from the battery, which might be called the brain. Other nerves convey pep and fire to the cylinders, and others supply the lamps, horn and other devices. Each of the wires and devices may have disorders like a man—or is it the female of the species which has "nerves"?

This side of the auto works seems to be the hardest for most persons to understand. Many otherwise good auto mechanics fall down when it comes to its electrics. Originally there was only a battery to furnish ignition current, with a vibrating coil to produce a high voltage. Lamps were of oil or acetylene gas and the starter was the "armstrong" variety. The electric system was exceedingly simple and would scarce scare the veriest novice or greenest greenhorn.

Then came the demand for electric lights, self starter and other devices, calling for a storage battery and multiplicity of wires and meters, with regulator and cutout and complicated switch, in place of the simple wiring of old days. Now it takes quite an electrician to care for this part of the car, but one may learn by study. As usual the start is with the manufacturer's book, which has a wiring diagram and other data. If you followed the hint given in a previous article you have been studying this.

It long has been the practice to compare electricity to water in explaining its action, and this analogy may be carried out in the case of the car's electric system, so please forget the "nerves" for a while.

First we have a tank for storing water; this compares with the storage battery of the car, in which it may be assumed that we store electricity. From the tank we may have a pipe, with a valve in it, connected to a water motor. If the valve is opened the water turns the motor and if this be connected to machinery it will be operated. Likewise in the electric system a wire may be run from the battery through a switch (valve) to an electric motor; closing the switch sets the electric current flowing, turns over the motor and if it be geared to a gas engine it will revolve the crank shaft. This is popularly called a self-starter; really it is an electric cranker.

If the water motor were thus connected to a gas engine to start it and the engine operated a pump, it would pump water back into the tank. In the auto the engine, when started, operates an electric generator—electricity pump—which replenishes the storage battery. Within limits this is a self-contained system

To prevent too much water going to the tank and overflowing it, a float might be rigged to close the valve at a certain tank level. In the electric system a current regulator usually is installed to prevent overcharging the battery.

We might desire to take water from the tank to washstand, bath, sink or elsewhere, done easily by spur pipes, each having a valve at the point where the water is to be used. In the auto when we desire current for the lights, ignition, horn and other devices, wires are attached to the battery through the switch to the devices. In practice one wire runs to the switch and branches run from there, just as in a water system a main pipe is run with spur pipes to the several outlets. In the auto the switchbox carries all the wires for the entire electric system, except the starter wires which run to the pedal or starter button

If we desire to know how much water is being pumped and the pressure a suitable meter is installed; in the auto there is usually an ammeter or ampere meter to show the amount of current passing and a volt meter to indicate the pressure.

It is not wise to carry this analogy too far, as it might become confusing. In the electric system there must be a complete circuit to have the current flow; if there is a wire to any device from the battery there must be a wire or other conductor leading back again. The necessity for the return circuit is not apparent in the case of water; however, there is a return water circuit through the general supply. This might be compared to the grounded wire electric system, where the return current is made through the auto frame to the battery.

If you will take the diagram in your instruction book as a guide and trace each circuit and then go out to the garage and find the wires on the car you will have a better working knowledge of how the thing works than from any other method. It is not to be expected that the novice will master the starting motor and generator right off the bat, or the magneto or interrupter box, or coil with its complications. Better let an expert attend to these. But if you familiarize yourself with the wiring system and realize that nine-tenths of the troubles come from loose connections at terminals, starved battery, broken wires or broken insulation that leaks current, and from dirty contact points in switch or distributor box, you will be able to run down most of your probable troubles.

Remember that if there is no supply in the storage battery you cannot get current to the lights or other devices. If everything goes wrong suspect the battery and its wiring, but if the engine runs and the lights do not work, look between the switch and lamps. By elimination usually the trouble narrows down to a single wire, or perhaps to one loose connection. If ignition is irregular examine the spark plugs and see if they need cleaning, first of all; next, the wiring.

Every hour spent with your wiring diagram studying the system on your car, and in going over the car diagram in hand, will pay you well when touring days come again. And remember that the diagram is a part of the car equipment, always to be carried.

Here's the "Good Samaritan."

The latest addition to the remarkable service equipment installed in the big service department of the Herrman Motor-Truck Company, Eastern Stewart truck distributors at 607 and 615 West Fifty-seventh street, is an emergency truck, which, in the parlance of the street, "does everything but talk" in taking care of disabled trucks. Eugene P. Herrman, who designed and is responsible for the many unique inventions incorporated in its makeup, says it is the only vehicle of its kind in New York, and probably in the United States, and is capable of handling almost any size truck built with a degree of ease and efficiency that makes the job almost child's play.

"It's first real test was in the recent big storm, not in helping Stewarts," says Mr. Herrman, "which were particularly fortunate, but in going to the rescue of other trucks which happened to be owned by some of our customers.

"We now employ four service trucks, but this new giant is in a class by itself. It will bodily raise any weight truck up to seven tons at the rate of three feet per minute. To do this the driver need only press a button and remain in his cab, which is entirely enclosed. The truck is equipped with electric starting and lighting, has a four speed transmission, a power tire pump, power winch connected direct to the motor, towing device with draw bar pull, and two large tool boxes containing all essential parts, including axles."

CLEVELAND'S BIG CLIMB.

Makes Remarkable Performance With Fan Belt Removed.

With its fan belt removed and its water pump rendered inoperative, a Cleveland Light Six touring car carrying four persons has been successfully driven up Mount Hamilton in northern California, according to a report received by E. R. Hunnewell of the Cleveland Automobile Sales Corporation, 1746 Broadway, the local Cleveland distributer.

The trip up the mountain, on which the Lick Observatory is located, is 150 miles. During the ride the car was not stopped "to cool off" nor was it otherwise spared. The party of four members of the Peacock Motor Sales Company, San Francisco Cleveland distributer, left Oakland at 8:45 A. M. and reached the Lick Observatory at 12 o'clock. The party stopped for lunch and completed the trip at Oakland at 5:10 in the evening.

Stanley D. Lewin of San Francisco acted as observer, and at the end of the trip made an affidavit describing the remarkably successful radiation test without fan belt or water pump.

The car was stock, and no adjustments were made beyond the removal of the fan belt and the operation which rendered the water pump useless.

HAYNES EXPORT PLANS.

In accordance with its export expansion programme to meet the rapidly increasing foreign demand for its cars, the Haynes Automobile Company has engaged the services of Leonard Barrere, an exporter and engineer of international repute, as special travelling export representative. Mr. Barrere, after a month's stay at the Haynes factory, will start on a three years' journey, during the course of which he will visit all the important cities of the world, including points on the European continent, Asia, Africa, India and South America.

NADLER WITH AMERICAN 'SIX.'

H. O. Nadler, who for the past three years has been connected with the advertising department of the New York branch of the B. F. Goodrich Rubber Company, recently resigned that position to go with the American Motors Corporation as manager of the advertising department. The American Motors Corporation is the builder of the American balanced six, with factories at Plainfield, N. J., and Greensboro, N. C.

Brake Adjustment.

A mistake frequently made, especially by new car owners, is to adjust the brakes so tightly that they slide the wheels when applied. Of course this stops the car quickly, but it inflicts such excessive wear on the treads as to make it a very expensive operation.

COLUMBIA SIX SALES GROW.

Riess & Acker Report Closed Car Demand.

Riess & Acker, metropolitan distributers of the Columbia six, report an unusual demand for this car, especially the sedan and coupe models, on which they can make almost immediate deliveries.

By the latter part of March this concern will have a custom built sedan, and all customers placing orders now may select their colors and interior decorations.

PACKARD SOLVES THE FUEL PROBLEM

"Fuelizer" Makes Possible the Efficient Use of Low Grade Gasolene.

"I consider this the most important announcement that has been made in the automotive industry in the last few years," said Lee J. Hastman, president of the Packard Motor Company of New York, in commenting on the invention of an appliance known as the fuelizer, which it is believed will solve the problem of efficient motor car operation on present day fuels.

Detailed information concerning the invention is given in a statement by Col. J. G. Vincent, vice-president of the Packard Motor Car Company, Detroit, who says:

"It is an invention that may revolutionize the motor car industry by making even low grade fuels more efficient than the gasolene we are using to-day. Also it practically does away with carbonization of the motor, which is an evil that engineers have been fighting for years."

The first announcement of the invention was made at a recent session of the Society of Automotive Engineers, of which Col. Vincent is president, and is said to have been the sensation of the meeting. The fuelizer forms part of the carburetion system of the engine, its purpose is to supply heat to the charge, changing the mixture that comes from the carburetor into a dry vapor readily and fully explosive in the cylinders. Its action is automatically responsive to the needs of the engine. The appliance was developed by L. M. Woolson in the experimental laboratories of the Packard Motor Car Company.

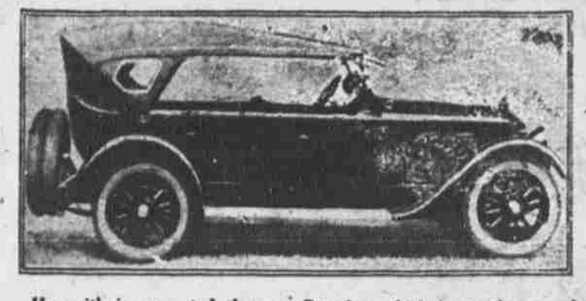
"The invention clears the way for years ahead," says Col. Vincent. "The fuel situation, due to the enormous expansion of the automobile industry, has become serious. The fuelizer not only assures efficient performance on present day fuels, but it gives insurance to motor car owners against difficulties which the future may bring. It has been recognized by engineers that the solution of the fuel problem was to be found in the proper carburetion of available fuels rather than any radical change in engine design. Various devices have been used for breaking up the wet mixture as it passed from the carburetor to the cylinders, but they have been only moderately successful. The most common device has been the exhaust heated intake, which supplied the greatest heat to the charge at a time when heat was least needed, and a minimum when the engine required the heat for efficient performance.

"In developing the fuelizer Mr. Woolson worked on the idea of applying heat automatically in just the degree needed. The appliance does its work automatically, without involving a single moving part, and it requires no adjustment.

"The fuelizer consists of a small supplementary carburetor and a burning chamber, where the gas from the little carburetor is burned. The chamber is situated in the intake manifold. When the gas enters it is ignited by a regulation spark plug and passes into the fresh charge going from the carburetor to the cylinders. The heat of the burnt gas changes the wet, poorly carbureted mixture to a dry vapor, which explodes with full efficiency when it is touched off by the spark in the cylinder.

"The appliance causes the entire charge to be exploded, doing away with carbonizing, because the kerosene and similar less volatile matter is burned. Also it prevents dilution of the oil in the crank case. Another advantage is that the engine, being supplied with a heated charge instantly on cranking, is ready for high gear work regardless of the weather."

New Premier Has Distinction.



Herewith is presented the new Premier, which is proving popular with New Yorkers. Its aluminum motor and magnetic gear shift make a particularly strong appeal.

The A. G. Kaufmann Motor Car Corporation at Broadway and Fifty-seventh street, have some of these models for immediate delivery.

TRUCK DEALERS TO HELP FARMERS

Question of Food Delivery to Local Markets an Important One.

Of paramount interest to the motor truck world is an organized movement that is being launched among the leading dealers of the metropolitan district to extend their sales efforts on an extensive scale to the farming districts of Long Island, New Jersey, Connecticut and other points within a practical radius of this city. The local truck manufacturers and dealers are beginning to realize that there is no more fertile field for the truck industry than the American farm, and that this is even more true of the truck farm, of which there are hundreds in this district, than of the larger agricultural sections.

The purpose of this organized movement is to show the truck dealers and salesmen the special adaptation of the truck in linking up the farm, the market and the consumer and its all round usefulness in developing our agricultural resources. The dealer and his men will in turn bring home to the mind of the farmer that power farming is even now a necessity to the farmer who would make the most of his opportunity; that the motor truck is the solution of his labor problem and his power problem, that the motor truck will make him master of his farm by delivering him from the bondage of hired help and horses.

To-day the country is confronted by one of the most serious problems in its history, namely, the overwhelmingly large number of farmers who are either leaving their farms altogether or are seriously decreasing production. The farmer's ability to profitably till the soil is limited by the man power and the horse power on his farm. There are less men and less horses available for the farm than ever before and the wages for farm help and the cost of maintaining horses are the highest in all time.

The farm bureau of the Goodyear Tire and Rubber Company has made a very thorough study and test of the motor truck on the farm. Their investigations and experiments have proved conclusively that a pneumatic tire motor truck will do the work of half a dozen horses and do it at a lower operating cost.

But even if the operating costs of the truck were as high as those of the horse the truck would justify itself many times over from the net profits standpoint. The farmer is interested in motor trucks chiefly because of the time that he can save. The motor truck cuts about two out of every three miles, and the advantages thereof are manifold. Due to the speed which the truck is capable of making, crops may be rushed to market in a short time while road and weather conditions are most favorable and while market prices are highest. Due to his ability to cover long distances in relatively short periods of time the owner may deliver his produce to the best or at least a better market than merely to a shipping point, as he more often has to do. From the price standpoint there is usually a vast difference between delivering crops at a shipping point and hauling them to a market, particularly in the case of perishable products. By placing several markets within practical reach of the farmer the truck introduces the element of competition in many a small community where before one buying agency has had the monopoly. Live stock must be delivered promptly to avoid loss, due to the treatment and often considerable fluctuation in the market, and fattened animals must be moved with minimum exertion, discomfort and excitement in order to avoid shrinkage. The motor truck will deliver perishable products, eggs, fruits and vegetables with less damage and in a better marketable condition.

HERSEY ON THE NEW JOB.

Dwight T. Hersey has taken up his new duties as director of sales of the Jenkins Vulcan Spring Company, Richmond, Ind. Mr. Hersey was for many years associated with the Splitdorf Electrical Company, both in the capacity of branch territory representative and more recently in the factory sales department at Newark, N. J., and he brings to his new duties a rare experience of executive sales and general trade distribution.

MORE THAN ENOUGH POWER.

Secret of the Chandler's Hill Climbing Ability.

"Probably the greatest satisfaction to be derived from motoring comes when your car is 'a wonder on hills,'" says J. B. Hulett of the Hulett Motor Car Company, Inc., Chandler Six distributor at Broadway and Sixty-second street.

"Given ample speed and power for all hills there is little left for the owner to desire. Sufficient power for all grades insures adequate speed for the level stretches.

"Most cars will go faster on the straight smooth roads than the average owner cares to drive them. The speed of cars is generally exaggerated by owners on level roads because there are many factors that are deceiving. For one thing, the road may have a slight downward pitch, although the owner thinks it is perfectly level.

"But there is nothing doubtful or uncertain about a hill and its demand on the power plant. It is there in front of you, and your car either takes it with ease or has a struggle. There is nothing to favor the car here except the quality and quantity of its power and your sensible use of it.

"The Chandler Six always has had a reputation as a hill climber. The engineers turned out just that kind of a car—one with more than enough power to take care of the average necessities of touring. It is the extra good measure of power put into every Chandler that gives it a decided advantage on all stiff grades."

NEW STUDEBAKER HOME.

Will Have $250,000 Structure Soon in Brooklyn.

Even with the addition of their new six-story building at the corner of Fifty-fourth street and Broadway the local Studebaker branch finds it necessary to make further plans for housing its rapidly growing business in Greater New York. Having a large clientele of users in Brooklyn, Studebaker has selected a location at the corner of Bedford avenue and Sterling place, and on this site will be erected a $250,000 building of concrete and terra cotta tiling.

The building will be a service station and salesroom. It will give Studebaker a home in Brooklyn such as those in charge of that part of the business have long dreamed of.

This fine new building will in a great measure relieve the ever increasing pressure on the present Studebaker facilities in this locality and will give the car owners of Brooklyn a very complete service.

Construction will start immediately and it is planned to have it ready for occupancy by October 1, 1920. Until that date the present quarters will be maintained at 1291 Bedford avenue.